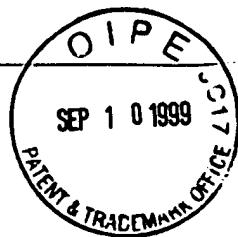


## **Abstract of the Disclosure**



3 A hand-held and flexible corrosion sensor is described that uses electrochemical impedance  
4 spectroscopy (EIS, also known as AC impedance) to detect coating degradation and corrosion of  
5 coated and uncoated metals. The hand-held and flexible corrosion sensor is pressed against the  
6 surface of the structure of specimen to be inspected, and may be either straight in structural  
7 configuration in the form of a pen or bent in a curved or angled manner to achieve better access to  
8 the structure. An EIS spectrum can than be obtained in the field or under arbitrary conditions and  
9 the degree of coating or material degradation can be determined from the resultant spectrum. There  
10 are no restrictions on the configuration of the structure being inspected. The area of detection is  
11 controlled by moderating the extent and degree of wetness of the surface. A dry surface will provide  
12 a localized measurement; a wet surface will allow inspection of the wetted area.

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**Attachment**

**The drawings submitted with this application were declared informal by the applicant. Accordingly, they have not been reviewed by a draftsperson at this time. When formal drawings are submitted, the draftsperson will perform a review.**

**Direct any inquiries concerning drawing review to the Drawing Review Branch (703) 305-8404.**